

Appl. No. 10/038,934
Amdt. Dated March 8, 2005
Reply to Office action of December 15, 2005
Attorney Docket No. P16135/1005-0015
EUS/J/P/05-6042

Amendments to the Claims:

This listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of billing a call made by a user in a telecommunications network based on a reported traffic load in the network, said method comprising the steps of:

sending to a presence server in the network, a registration message from at least one Media Gateway Control Function (MGCF), said registration message including a traffic load for the MGCF wherein the network utilizes Session Initiation Protocol (SIP) control signaling for call setup and call control, and the step of sending said registration message includes:

modifying a SIP REGISTER message to include said traffic load information for the MGCF; and

sending the SIP REGISTER message from the MGCF to the presence server;

determining a billing rate for the user based on the traffic load reported by the MGCF; and

applying the determined billing rate to the call to calculate a charge for the call.

2. (Original) The method of billing a call of claim 1 further comprising the steps of:

registering in the network, a user who subscribes to a network-load based billing service; and

sending from the presence server to the user, an indication of the traffic load reported by the MGCF.

3. (Cancelled)

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4. (Currently Amended) The method of billing a call of ~~claim 3~~ claim 1 wherein the step of sending a registration message from at least one MGCF to a presence server in the network also includes sending an update SIP REGISTER message from the MGCF to the presence server whenever the presence state of the MGCF changes or the traffic load changes by a threshold amount.

5. (Original) The method of billing a call of claim 4 further comprising the steps of:

registering in the network, a user who subscribes to a network-load based billing service; and

notifying the user of changes to the network traffic load whenever the MGCF sends an update SIP REGISTER message to the presence server.

6. (Original) The method of billing a call of claim 5 wherein the step of notifying the user of changes to the network traffic load includes notifying the user of changes to the network traffic load prior to the user placing the call, thereby enabling the user to assess the corresponding billing rate prior to placing the call.

7. (Currently Amended) A method of billing a call made by a user in a telecommunications network based on a reported traffic load in the network, said method comprising the steps of:

sending to a presence server in the network, a registration message from at least one Media Gateway Control Function (MGCF), said registration message including a traffic load for the MGCF;

determining a billing rate for the user based on the traffic load reported by the MGCF; and

applying the determined billing rate to the call to calculate a charge for the call, said step further comprises the steps of: The method of billing a call of claim 1 wherein the step of applying the determined billing rate to the call to calculate a charge for the call includes

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calculating a charge for the call based on the determined billing rate and parameters of the call relating to network resource usage;
determining a duration of the call; and
multiplying the duration of the call by the determined billing rate wherein the billing rate is expressed as a cost per unit time.

8. (Cancelled)

9. (Original) The method of billing a call of claim 7 wherein the billing rate is expressed as a cost per unit volume of data transferred, and the step of calculating a charge for the call based on the determined billing rate and parameters of the call relating to network resource usage includes:

determining a volume of data transferred during the call; and
multiplying the volume of data transferred during the call by the determined billing rate.

10. (Original) A method of billing a call made by a user in a telecommunications network based on a reported traffic load in the network, said method comprising the steps of:

sending to a presence server in the network, a registration message from at least one Media Gateway Control Function (MGCF), said registration message including a traffic load for the MGCF;

sending an update of the traffic load from the MGCF to the presence server whenever the traffic load of the MGCF changes by a threshold amount;

registering in the network, a user who subscribes to a network-load based billing service;

sending from the presence server to the user, an indication of the current traffic load reported by the MGCF;

sending the reported traffic load from the presence server to a billing node when the user places the call;

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determining by the billing node, a billing rate for the user based on the traffic load reported by the presence server; determining by a Call State Control Function (CSCF), parameters of the call relating to network resource usage;

sending the parameters from the CSCF to the billing node; and

calculating by the billing node, a charge for the call based on the determined billing rate and the parameters relating to network resource usage.

11. (Original) The method of billing a call of claim 10 wherein the step of determining parameters of the call relating to network resource usage includes determining a duration of the call.

12. (Original) The method of billing a call of claim 10 wherein the step of determining parameters of the call relating to network resource usage includes determining a volume of data transferred during the call.

13. (Original) A system in a telecommunications network for billing a call placed by a user based on a reported traffic load in the network, said system comprising:

at least one Media Gateway Control Function (MGCF) that sends registration information to the network, said registration information including a reported traffic load for the MGCF;

a presence and instant messaging (PIM) server that receives the registration information from the MGCF and sends the reported traffic load to a billing node;

a Call State Control Function (CSCF) that determines parameters of the call relating to network resource usage and sends the parameters to the billing node; and

a billing node that determines a billing rate based on the reported traffic load and calculates a charge for the call based on the determined billing rate and the parameters relating to network resource usage.

14. (Original) The system for billing a call of claim 13 wherein the CSCF includes means for determining a duration of the call, and the billing node determines a billing

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rate expressed as a cost per unit time and calculates a charge for the call by multiplying the duration of the call by the determined billing rate.

15. (Original) The system for billing a call of claim 13 wherein the CSCF includes means for determining a volume of data transferred during the call, and the billing node determines a billing rate expressed as a cost per unit volume of data and calculates a charge for the call by multiplying the volume of data transferred during the call by the determined billing rate.

16. (Original) A system in a telecommunications network for billing a call placed by a user based on a reported traffic load in the network, said system comprising:

means for controlling data transferred through the network, said data controlling means including means for sending registration information to the network, said registration information including a reported traffic load for the network;

means for receiving the registration information from the data controlling means and sending the reported traffic load to a billing means;

means for setting up and controlling the call, said call setup and control means including means for determining parameters of the call relating to network resource usage and sending the parameters to the billing means; and

billing means for determining a billing rate based on the reported traffic load and calculating a charge for the call based on the determined billing rate and the parameters relating to network resource usage.